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ABSTRACT

The effects of a Title III program on the reading and auding achievement of first- and second-grade pupils in Thompson School District, Colorado, were investigated. Subjects were 85 first graders and 15 second graders in the project rooms and 69 first graders and 20 second graders in control rooms at a neighboring school district. Treatment in the in-class auding centers consisted of 20-minutes daily of auding skills instruction, 20-minutes daily of literature and/or music instruction, plus teacher/pupil discussions and individual use of the auding center. The Gates-MacGinitie Reading Tests showed that the two groups had equal readiness skills. Forms A and B of the Metropolitan Achievement Tests were administered in December and May, respectively as pretest and post-test. Statistical analysis showed the treatment to be significant at the .01 level in the improved scores of project pupils in reading, auditory discrimination, and listening but statistically insignificant in improving word knowledge or word discrimination. The Wepman Auditory Discrimination Test and Durrell Listening-Reading Series were administered in February and April, respectively, and comparison of results on both tests favored the project pupils. In addition to the tests, subjective evaluations of teachers, pupils, and parents resulted in the judgment that the pupils responded positively and enthusiastically to the project. Tables are included. (AW)

ED 061009

A FINAL

EVALUATION REPORT

(P.L. 89-10, Title III)

A PROGRAM

OF

PRIMARY AUDING SKILLS

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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201 South Lincoln Avenue

Loveland, Colorado 80537

C. E. Stansberry, Superintendent

RE 003 680

A PROGRAM OF PRIMARY AUDING SKILLS, 1969-70

Introduction

The Program of Primary Auding Skills of the Thompson School District R2-J, Larimer County, Colorado is a project designed and developed as an exemplary program for teaching auding skills. This project was initiated by the staff of the Thompson School District R2-J in 1966. A planning grant was awarded for the 1967-68 school term and operational grants were awarded for the 1968-69 and 1969-70 school terms, by the U. S. Office of Education through Title III of the Elementary and Secondary Education Act.

This study was intended to determine how adequately the project met its objectives during the final year of the project.

STATEMENT OF THE PROBLEM

The primary concern of this study was to determine the effect, if any, of "A Program of Primary Auding Skills" on the reading and auding achievement of first and second grade pupils. In order to determine this effect, the following statements, or hypothesis will be tested.

1. The word knowledge, word discrimination, and reading achievement scores of the experimental group, after treatment, were not significantly higher than the reading achievement scores of the control group, as measured by the Metropolitan Achievement Tests, Primary I Battery.

2. The reading achievement scores of the experimental group, after treatment, were not significantly higher than the reading achievement scores of the control group, as measured by the Durrell-Hays Listening-Reading Series, primary level, Form D. E.

3. The listening achievement scores of the experimental group, after treatment, were not significantly higher than the listening achievement scores of the control group, as measured by the Durrell-Hays Listening-Reading Series, primary level, Form D. E.

4. The number of errors in auditory discrimination of the experimental group was not significantly less than the number of errors of the control group, as measured by the Wepman Auditory Discrimination Test.

Other questions which the study has attempted to answer are related to comcomitant outcomes of the project.

1. Do participating pupils respon to listening in a more positive way than do non-participating pupils?

2. Does the program of auding skills as designed and developed receive enthusiastic support of teachers, administrators, and external reviewers?

3. What is the reaction of parents who have children in the program?

Interest in the program of auding skills has been generated throughout the Northern Colorado area, as well as statewide. There have been numerous inquiries and visits by individual teachers and administrators from school districts in Colorado and other states. The Title III, Elementary and Secondary Education Act evaluation teams have stressed the need for a more formal evaluation program to provide better information on its effectiveness.

THE LOCALE

The Thompson School District R2-J is located in north central Colorado. It includes the communities of Loveland and Berthound and the surrounding area of approximately 400 square miles. The district has seven elementary attendance centers, two junior high school attendance centers, one junior-senior high school and one senior high school. Pupil

enrollment in the school district was 6,232 at the end of the 1969-70 school year.

The Program of Primary Auding Skills was carried on with pupils enrolled in grade one and two in the district. Three elementary schools were selected for establishment of project rooms. These three schools were Washington Elementary School, Monroe Elementary School, and Van Buren Elementary School.

Washington Elementary School is a pre-1920 school building which primarily serves lower income families in its attendance area. Approximately 34 percent of the children attending at Washington Elementary School are of minority group background. The school enrolls children in kindergarten through grade six, with two sections of each grade. Project rooms at Washington School included both sections of grade one and one section of grade two.

Monroe Elementary School was constructed and began operation in 1964. The attendance area serves families of middle income and 3 to 4 percent of the children enrolled are of minority background. The school is comprised of kindergarten through grade six, with three sections for each grade. One first grade class was involved in the Auding Program.

Van Buren Elementary School was constructed and occupied in 1968. The attendance area primarily serves families which are in the middle to upper-middle income categories. There are very few minority group youngsters in attendance at the school, compromising less than 1/2 of 1 percent of the total enrollment.

The school is comprised of kindergarten through grade six, with three or four sections at each grade level. One first grade class was included in the program.

Due to the fact that enthusiasm on the part of the teachers in the Thompson School District prevented the establishment of uncontaminated control rooms within the District, three schools in the neighboring St. Vrain Valley School District, Re-1J were selected as control schools, with one first grade section at each school and a second grade section at one school selected to serve as control rooms. These three schools were Central Elementary School, Erie Elementary School, and Frederick Elementary School. These schools were selected because of the similarity of the income group served and the percentage of minority group children in attendance at the schools.

Central Elementary School was constructed prior to 1920, It served an attendance area where the residents were of middle or upper-middle income. The school was comprised of kindergarten through grade six, with three sections of each grade. Children of minority groups accounted for less than 1 percent of the entire student body. One control room was selected.

The Erie Elementary School was housed in a building constructed in 1968, The attendance area served was comprised primarily of middle income families. Approximately 7 percent of the students in attendance were from minority groups. One control room was selected at Erie Elementary School

Frederick Elementary School had one portion of the school which was a pre-1920 building, and another section which was a new building. The school primarily served families with low income. It was comprised of kindergarten through grade six, with two sections of each grade. Over 50 percent of the students in attendance were of minority group background. Two control rooms were selected, one first grade and one second grade.

The Thompson School District R2-J and the St. Vrain Valley School District Re-Ij are located in the north central area of Colorado where there has been a steady increase of population over the past ten years. The Thompson School District has experienced a 6.5 percent increase in enrollment growth per year while the St. Vrain Valley School District has experienced a 7 percent increase in enrollment over the past ten years.

The assessed valuation per pupil in both districts was slightly in excess of $8,000.00 per pupil and the millage levy was 55.80 mills in the St. Vrain Valley District and 53.78 mills in the Thompson District. Per pupil cost in the St. Vrain Valley District was $657.20 while in the Thompson District it was $589.40 for the 1969-70 school term. Teachers were selected for the project and control rooms who had more than three years of teaching experience.

PROGRAM DESCRIPTION

The development and operation of "A Program of Primary Auding Skills" was accomplished through staff efforts, but was organized and coordinated by Mrs. Olive Zzryba thd Project

Director. Her dedication and enthusiasm were major factors in the implementation of instructional techniques, development and selection of materials and equipment, and maintaining the day-to-day operation of the project. She led the staff in the development of the curriculum in auding skills, conducted in-service training for teachers, prepared materials for instruction, and served as resource teacher and advisor in conducting the classroom operation.

Additional credit for development of the project is due Thompson School District staff members, Mrs. Barbara Gray, Elementary Coordinator, and Mr. Richard Neale, Director of Federal Projects. Project teachers were involved in all phases of planning. Staff consideration, discussion and decision-making was a common element.

The auding program is developed around the concept of providing various aids to the teacher in order to facilitate the exposure of children to a planned, sequential program of auding activities. An Auding Center, consisting of listening stations and the equipment for presentation, was established in each classroom. The Auding Center, consisting of listening stations and the equipment for presentation, was established in each classroom. The Auding Center is identified as a separate part of the classroom by the use of cabinets, carpeting, or arrangement of tables to designate it's boundaries.

It is located so that children using it are not disturbed by the physical activity of others in the room, generally it has been located in one corner of the classroom. Various items of auio visual equipment are arranged in the Center so

that several children may use them at the same time, allowing the Auding Center to accomodate approximately half the class. A listening table, which has a jack-box for children to plug in head-sets, accomodates eleven or twelve students, thereby making it possible for an entire reading group to receive instruction from the tape teacher at one time. A study carrel arrangement may be added to the table to provide for individual instruction at the listening table. An additional small table or cart, or the top of a storage cabinet, may be used for placing equiment so that small groups of two or three may participate in an activity separate from the listening table.

The basic equipment in each Auding Center consisted of:

1. A record-film strip combination projector and player.
2. Tape recorders and headsets.
3. The card reader with magnetic tape strip on the card for listening, responding, and listening to the recorded response. The cards have pictures, or they may be plain and pictures may be drawn on the cards by the pupil or teacher.
4. Record players equipped with headphone jacks.
5. Filmstrip projector, preferably one with a rear projection, daylight screen.

Equipment was selected for compactness, durablility, usefulness in a normally lighted and accoustically treated classroom, and for ease of operation. All equipment was operated by the pupils in the classroom, as well as the classroom teacher, as a regular part of the program. Teaching materials which were used varied between classrooms due to the inclusion of teacher-made materials. However, the following list of materials was developed as standard for each project room:

A. Reading and auding materials
   1. "Listening Skills for Pre-readers: by Stanley Bowmar (designed to promote facility in aural comprehension skills).
   2. "We Learn the Colors and Their Names" by Imperial.
   3. Teacher made materials.
      a. Alphabet Series (designed for teaching the alphabet and shows how to form letters)
      b. Auditory discrimination
      c. Name game (pronouns)
      d. Opposites
      e. Listening lesson (Instruction in use of equipment and procedures to be used in the Auding Center).

B. Phonics materials
   1. "Listening with Mr. Bunny Big Ears" by Educational Activities, Inc. (language development and speech improvement).
   2. "Seven Series of Reading Tapes" by Ideal Company (basic phonics instruction, enrichment, remediation, and review).
   3. "Head Start in Reading" by Filmstrip House, Inc. (Verbal and written responses).
   4. "Primary Reading Program" by Imperial (reading readiness, comprehension, word attack skills, and study skills).
   5. Teacher made materials.
      a. Washington Tapes (phonics)
      b. Phonics-rhyming words
      c. Describing and classifying
      d. Vowels and consonant endings
      e. Making new words
      f. See the letter, say the sound
      g. Short vowel review

C. Story materials
   1. "Palace in the Sky" by Imperial (professionally told and dramatized stories).
   2. "Sound filmstrips" by Weston Woods Studios (taped version of library books for read along activities).
   3. "Tales of Rudyard Kipling" by Jam Handy Company.
   4. "Hans Christen Anderson Tales:by Spoken Hearts.
   5. "Grimms Fairy Tales" by Coronet.
   6. "Tales of the Wise Old Owl" Series by Cathedral.
   7. Teacher made materials
      a. 128 taped versions of books in the building library collection.
      b. 11 taped versions of stories in Spanish and English.
      c. 21 taped versions of stories for use with flannelboard characters and objects.

D. Music materials
   1. "Opera and Ballet Stories" by Jam Handy Company.
   2. "Music Classics" by Jam Handy Company.
   3. "Wonderful World of Music for Children" by Readers Digest.

While the subject content of the lesson materials was from varied fields, the lessons emphasized the development of the following auding skills:

1. Following directions.
2. Listening attentively.
3. Locating main ideas.
4. Recalling sequence.
5. Making judgments.
6. Drawing conclusions.
7. Responding to oral communication.

In addition to the standard materials, the supply of additional materials available was quite extensive. The catalog, Tapes and Materials for the Teaching of Auding Skills, may be obtained by writing to:

Educational Media Center
Thompson School District R2-J
201 South Lincoln Avenue
Loveland, Colorado 80537

Auding Center activities were scheduled daily in the instructional program. Auding, reading, literature, and music were the basic areas from which materials were selected. Spelling, social studies, science, and mathematics tapes were also used as deemed appropriate in the judgment of the classroom teacher, sometimes as content for teaching auding skills, but also in providing individual subject assignment for pupils in addition to the regularly scheduled auding time.

The time period scheduled for formal auding activities corresponded with the time scheduled in most classrooms for reading group discussion, approximately twenty minutes per day. The children were divided into groups for reading instruction and continued in these groups for their formal auding activities. The groups alternated between reading instruction, auding activities, and their individual seat work which was related to the reading or auding activities.

A curriculum was developed for the auding skills activities which suggested the sequence in which materials were to be presented. Auding activities were closely coordinated with the sequence of reading instruction activities followed in the classroom. For example, beginning reading materials were scheduled for the first few weeks of the term. Then, tapes and stories to which the child was to listen while reading the story in a book were scheduled during the second semester.

The initiation of the auding skills program in grade one at the start of the school year was not instantaneous. A period of adjustment was required to prepare both teachers and pupils to benefit from the program.

A summer workshop was held for project teachers and other interested teachers within the Thompson School District R2-J. The topics covered in the work-shop were as follows;

1. Introduction to equipment and operation procedures.
2. Review and familiarization with tape, slide record, and other materials and coordination of the materials with the reading curriculum.
3. Practice in teaching methods using the Auding Center.
4. Teaching practice lessons in the Auding Center.

5. Practice in preparing taped materials.
6. Selection and development of materials.
7. Planning for initiation of pupil activities in the Auding Center.
8. In-service activities during September, October, and November.

The preparation of first grade students to use an Auding Center is not an easy task and was not accomplished immediately. A period of approximately two months was used to carry on several activities to introduce children to this type of learning situation. Initially, the teacher conducted group practice in following directions. This consisted of giving oral directions to the children, first repeating the directions, and at a later time giving the directions only once to encourage attentiveness.

When this habit had been developed satisfactorily, instruction was given in the use of the headsets. The children were allowed to experiment with the headsets in order to remove any fear they might have of using them. When this had been accomplished, the headsets were used in teaching auding center procedures and how to make responses on response sheets. At this point in introducing the children to the Auding Center, all equipment was operated by the teacher.

When, in the judgment of the teacher, the children had progressed to the point where they were responsible enough to handle the operation of the equipment, instruction was begun in these procedures. The operation of each machine was introduced individually, and children mastered the operation of the subsequent machines. When operating procedures had been satisfactorily

mastered on all machines, the individual groups were organized on a rotation system so that one individual in the group would have "operator" responsibilities for his group. Since all children learned to operate the machines, this allowed for both group and individual use of the machines by the children.

Children in the grade two project room did not receive this detailed an orientation to the Auding Center since they had experiences with the program the preceeding year.

Typical activities in the Auding Center were carried out in the pattern that follows: Children went to the Auding Center in their group. The individuals assigned to operate the equipment placed the proper materials on the machine, and, after determining that all members of the group were ready to begin, started the lesson for the day. The narration outlined what materials were needed and gave necessary instruction for completing the task, or tasks, to be accomplished by the children. The lesson was then presented, along with directions as to when tasks were to be completed. After completion of the lesson, the equipment was prepared for the next group to use, and the children met with the teacher to discuss the lesson and the tasks that they had completed.

Individual lessons were given to children when deemed appropriate by the teacher. The use of taped materials, which included instruction for the children and had response sheets already prepared, facilitated individual usage. Several alternative sets of materials on a single specific skill or topic were available for selection by the teacher if she desired more practice for the individual pupil or group of pupils.

Project teachers experienced frustration and anxiety in the initial stages of the program. Considerable assistance in operation of the machines and organizing for teaching were required of the project director to help them through this introductory period. Confidence grew as they observed that children could be responsible for operation of the machines and that personal direction of their activities in the auding center was usually not necessary. The teachers were then able to devote more time to group activities or individual activities with other children in the room. Soon they were utilizing materials, the tapes, in particular, to prepare special lessons for individual children as they determined the child's need. As the teacher's skill in preparing taped materials grew, requiring only a few minutes time to prepare materials for the children to use the next day. Generally, the determination of need for such additional material was on the basis of the discussion session following the children's experience in the Auding Center each day.

THE PROJECT TREATMENT

In the project rooms the following instructional pattern was established as the standard procedure. It was the treatment provided to the project room which was not available to the control rooms.

1. 20 minutes daily of auding skills instruction in the Auding Center.
2. Response sheets completed by the children on the auding skills content.
3. Discussion of the auding skills lesson with the teacher.

4. 20 minutes daily of literature and/or music in the Auding Center.
5. Discussion of the literature and/or music lesson with the teacher.
6. Individual use of auding center by children, as they had time, for enrichment and enjoyment with literature and/or music materials.
7. Individual use of auding center by children for additional skill practice in auding and reading.
8. Use of individual cassette tape recorders for read-a-long stories at home or during free time.

There were no activities conducted with the control rooms in the St. Vrain Valley District with either the teachers or the children other than conducting the testing program. The teachers in the control rooms were probably aware of the nature of the auding skills program since that program had considerable publicity both prior to and during the time the project was in operation. Since none of the materials or training programs were available to them, it is unlikely that they were able to incorporate any aspects of the auding skills program in their classrooms. Observation of the control rooms did not reveal the use of any of the lesson materials developed for the auding program. Some equipment, i.e.: record players, filmstrip projectors, and tape recorders, were available in the control rooms. However, the usage of this equipment was for other purposes than the teaching of listening or auding skills.

EVALUATION

The chief objectives of the program were to improve the auding skills of children in the project rooms served, and to improve their reading skills. Other objectives were to improve the attitude of children toward listening activities, and to provide opportunities for his exposure to common literary and musical selections. The evaluation was aimed only at the chief objectives, although some evidence was collected concerning the other objectives.

The formal evaluation was to determine the effect of "A Program of Primary Auding Skills" on the reading and auding achievement of the project room pupils.

Children enrolled in the project rooms were 85 first grade children and 15 second grade children in three elementary public schools. Rooms were selected where the teacher had at least three years of teaching experience, and had volunteered to participate in the project.

Comparison groups of first and second grade classes were established in a neighboring school district in schools which served similar neighborhoods. Sixty-nine first grade children and 20 second grade children were enrolled in these control rooms.

EVALUATION PROCEDURES

All children in the four project rooms and in the three comparison rooms at grade one were given the Readiness Skills level of the Gates-McGinitie Reading Tests in September, 1969. This test measures listening comprehension, auditory discrimination,

visual discrimination, following directions, letter recognition, visual-motor coordination, auditory blending, and word recognition. Analysis of the differences in the pretest means of the project group and of the comparison group showed that the true between-group means for this type of test are equal. The F ratio was tested at the .05 level.

All children in the five project rooms and in the four comparison rooms were given the Primary I Battery Form A or the Primary II Battery Form A, as appropriate for their grade level, of the Metropolitan Achievement Tests in December, 1969 as a pretest. They were given Form B in May, 1970 as a postest. Subtests for word knowledge, word discrimination, and reading were the only portions of the Battery used in the pretest and postest measurement. The normal gain in each subtest over that period was expected to be five months.

Children in the first grade project rooms showed overall gains of 5.3 months in word knowledge; 7.4 months in word discrimination; and 10.3 months in reading, during the five month period. Children in the first grade comparison rooms showed overall gains of 1.9 months in word knowledge; 5.9 months in word discrimination; and 4.7 months in reading, during the five-month period.

Children in the second grade project room showed overall gains of 19.0 months in word knowledge; 8.6 months in word discrimination; and 18.3 months in reading, during the five-month period. Children in the second grade comparison room showed

overall gains of 9.9 months in word knowledge; 10.4 months in word discrimination; and 1.9 months in reading, during the five-month period.

All children in the five project rooms and in the four comparison rooms were given the Wepman Auditory Discrimination Test in February, 1970. This test measures ability to discriminate between 40 sets of paired words which are similar or identical when the words are pronounced by the examiner. (In this test the words were recorded on tape to gain consistency in pronunication for all youngsters tested.) The number of errors are normal for the age of the child. Adequate or inadequate auditory discrimination is determined by whether the number of errors is less or equal to the norm for adequate, and the number of errors is more than the norm for inadequate discrimination.

Children in the first grade project rooms showed 12 of 94, 12.7%, inadequate in auditory discrimination. Children in the comparison rooms showed 40 of 84, 47.6%, inadequate in auditory discrimination.

All children in the five project rooms and the four comparison rooms were given Form DE of the Primary Level, Durrell Listening-Reading Series in April, 1970. The test is normed for both grades one and two. The series consist of tests of both listening and reading comprehension, providing a comparison between listening and reading abilities.

Children in the first grade project rooms showed an average achievement of grade 3.8 in listening, and of 2.4 in reading.

Children in the first grade comparison rooms showed an average achievement of grade 2.7 in listening, and 1.5 in reading.

Children in the second grade project room showed an average achievement of grade 4.4 in listening, and of 3.4 in reading. Children in the second grade comparison room showed an average achievement of grade 3.8 in listening, and of 3.3 in reading.

STATISTICAL EVALUATION

Statistical analysis of the data collected in the evaluation of the Auding Skills Project was accomplished through the assistance of the Educational Research Laboratory of the University of Colorado and the use of the University of Colorado computer. A multivariance analysis, using the FINN-CU program for the computer was conducted. This program develops univariate and multivariate analysis of variance, covariance and regression.

This analysis was restricted to the first grade project rooms. This decision was made in light of the limited population available in the second grade rooms.

A step-wise regression to analyze the contribution of each independent variable to the association between dependent and independent variables showed these independent variables as not significant. The independent variables thus eliminated were age, social status, scores on the Gates McGinitie Reading Tests, and scores on the word knowledge, word discrimination and reading subtests of the Metropolitan Achievement Test.

Primary Battery, Form A.

Analysis of covariance was conducted to determine the association between sex, school where assigned, treatment versus control, sex by school, sex by treatment, school by treatment, and sex by school by treatment. The following tables show the results of this analysis for each dependent variable.

Table 1

Metropolitan Achievement Test, Primary I Battery, Form B
Word Knowledge

Source	D.F.	M.S.	F	P
Sex	1	.01	.02	.886
School	2	.08	.11	.894
Treatment	1	1.19	3.88	.051[a.]
Sex x School	2	.01	.03	.967
Sex x Treatment	1	.90	2.92	.089
School x Treatment	2	.61	1.99	.139
Sex x School x Treatment	2	.34	1.11	.334
Error	136	.307	---	----

a. Treatment approaches significance at the .05 level

Table 2

Metropolitan Achievement Test, Primary I Battery, Form B.
Word Discrimination

Source	D.F.	M.S.	F	P
Sex	1	.15	.36	.552
School	2	.02	.06	.945
Treatment	1	.98	2.37	.126
Sex x School	2	.26	.64	.530
Sex x Treatment	1	.27	.66	.418
School x Treatment	2	1.28	3.08	.049[a.]
Sex x School x Treatment	2	.55	1.33	.268
Error	136	.414	---	----

a. Significant at the .05 level

Table 3

Metropolitan Achievement Test, Primary I Battery, Form B.
Reading

Source	D.F.	M.S.	F	P
Sex	1	.03	.07	.798
School	2	.17	.44	.648
Treatment	1	3.16	8.10	.005[a.]
Sex x School	2	.56	1.44	.241
Sex x Treatment	1	1.32	3.89	.068
School x Treatment	2	.01	.03	.973
Sex x School x Treatment	2	.24	.60	.548
Error	136	.390	---	----

a. Significant at the .01 level

Table 4

Wepman Auditory Discrimination Test

Source	D.F.	M.S.	F	P
Sex	1	4.46	.46	.500
School	2	4.84	.49	.611
Treatment	1	173.92	17.78	.0001[a.]
Sex x School	2	5.06	.52	.597
Sex x Treatment	1	5.87	.60	.439
School x Treatment	2	12.20	1.25	.291
Sex x School x Treatment	2	3.44	.35	.704
Error	136	9.781	---	----

a. Significant at the .01 level

Table 5

Durrell-Hays Listening-Reading Series, Form D.E.
Listening

Source	D.F.	M.S.	F	P
Sex	1	.44	.55	.459
School	2	2.13	2.68	.072
Treatment	1	23.64	29.77	.0001[a.]
Sex x School	2	2.28	2.87	.060
Sex x Treatment	1	.11	.14	.713
School x Treatment	2	.29	.37	.692
Sex x School x Treatment	2	1.78	2.24	.110
Error	136	.794	---	----

a. Significant at the .01 level

Table 6

Durrell-Hays Listening-Reading Series, Form D.E.
Reading

Source	D.F.	M.S.	F	P
Sex	1	.07	.17	.677
School	2	.50	1.24	.292
Treatment	1	9.48	23.58	.0001[a.]
Sex x School	2	1.56	3.88	.023[b.]
Sex x Treatment	1	.36	.90	.345
School x Treatment	2	2.68	6.66	.002[a.]
Sex x School x Treatment	2	2.19	5.46	.005[a.]
Error	136	.402	---	---

a. Significant at the .01 level
b. Significant at the .05 level

This analysis shows the treatment, the auding skills activities in the project rooms, to be significant at the .01 level in the improved scores of project pupils in reading, auditory discrimination, and listening.

It did not show the treatment to be significant in the improvement of scores in word knowledge or word discrimination as measured by the Metropolitan Achievement Test, Primary I Battery, Form B.

The analysis indicated interaction on the Durrell-Hays Reading sub-test which was related to school where assigned and to sex. Examination of the raw data resulted in the conclusion that boys in one project room did not achieve comparatively higher than the boys in the control room with which they were matched. This could indicate differences between the teachers in their effectiveness in working with boys.

TESTING OF THE HYPOTHESES

Hypothesis 1. The word knowledge, word discrimination, and reading achievement scores of the experimental group, after treatment, were not significantly higher than the reading achievement scores of the control group, as measured by the Metropolitan Achievement Tests, Primary I Battery.

This hypothesis was accepted in part and rejected in part. Word knowledge and word discrimination scores of the experimental group were not significantly higher. Reading scores of the experimental group were significantly higher.

Hypothesis 2. The reading achievement scores of the experimental group, after treatment, were not significantly higher than the reading achievement scores of the control group, as measured by the Durrell-Hays Listening-Reading Series, Primary level, Form D.E.

This hypothesis was rejected. Reading scores of the experimental group were significantly higher.

Hypothesis 3. The listening achievement scores of the experimental group, after treatment, were not significantly higher than the listening achievement scores of the control group, as measured by the Durrell-Hays Listening-Reading Series, Primary level, Form D.E.

This hypothesis was rejected. Listening scores of the experimental group were significantly higher.

Hypothesis 4. The number of errors in auditory discrimination of the experimental group was not significantly less than the number of errors of the control group, as measured by the Wepman Auditory Discrimination Test.

This hypothesis was rejected. Auditory discrimination scores of the experimental group were significantly less than for the control group.

OTHER EVALUATION

In addition to the evaluation provided by standardized tests, subjective evaluations of teachers and pupils were solicited regarding the response of pupils. Teachers reported extensive use of the auding center on an individual basis by pupils. Pupils gave evidence of their

enthusiasm through requests to use the center, by selecting listening activities in free-choice situations, and by sharing their listening tapes with their parents when they took cassette tape players home. When parents visited the classrooms they asked to observe the auding center activities because their children had been enthusiastic about this part of their school work.

Written statements from the teachers stressed their strong commitment to the program, the change in teaching style which resulted from the participation, and their conviction that youngsters enjoyed the activities and learned more efficiently as a result of the program. The administrative staff endorsed the program by developing local budgets to expand the program to all first grade classrooms in the Thompson District. Review teams from E.S.E.A., Title III recommended continuation and expansion of the program.

Parents reactions to the program were solicited through a questionnaire sent to their home. There was a 76% return of the questionnaire. Parents indicated that they thought the program was helpful and that the children were enthusiastic about it. They felt the program should be expanded to provide the auding activities to all first grade children, but particularly to provide them in succeeding years.

RECOMMENDATIONS

The results of the program evaluation indicate its success in attaining the outcomes for which it was developed. The statistical analysis shows promise for the treatment employed and suggests further studies to refine and improve it would be desirable. Further study to analyze the interaction phenomenon identified could be helpful in refining the treatment.

The evaluation justifies the continuation of the program and its expansion to all first grade classrooms. Due to the small population sample in this study, it is recommended that further study be conducted on the effectiveness of the program. Such study should stress an examination of the applicability of the treatment to classrooms which do not benefit from the close supervision and assistance provided in the project rooms. This would be important in determining the justification for generalization to use of the program in other school districts.